

METHOD AND APPARATUS FOR SYNCHRONIZATION OF  
ANCILLARY...

Tarnoff, et al.

Appl. No.: Unknown

Atty Docket: DFR2000.008C1

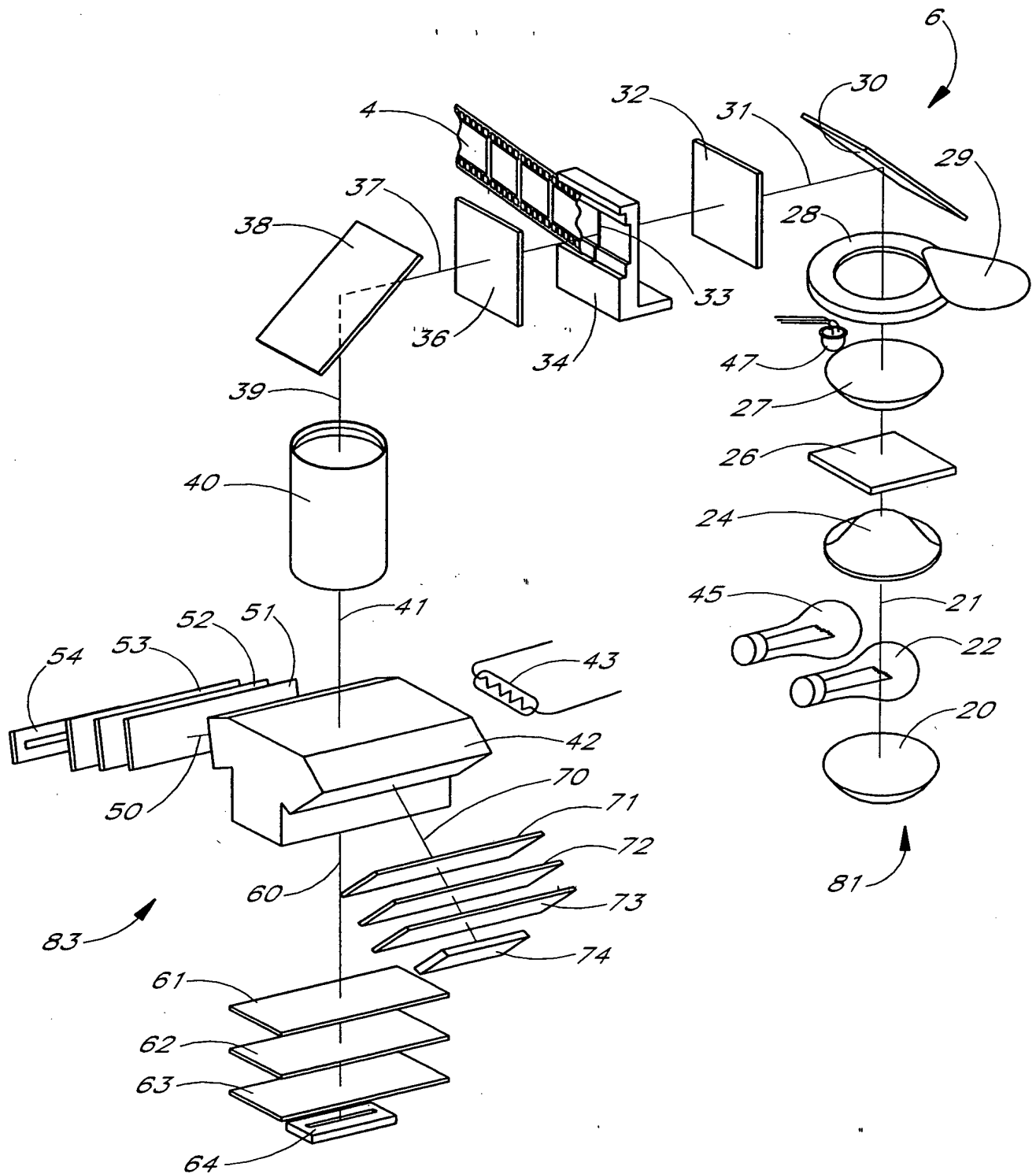


FIG. 2

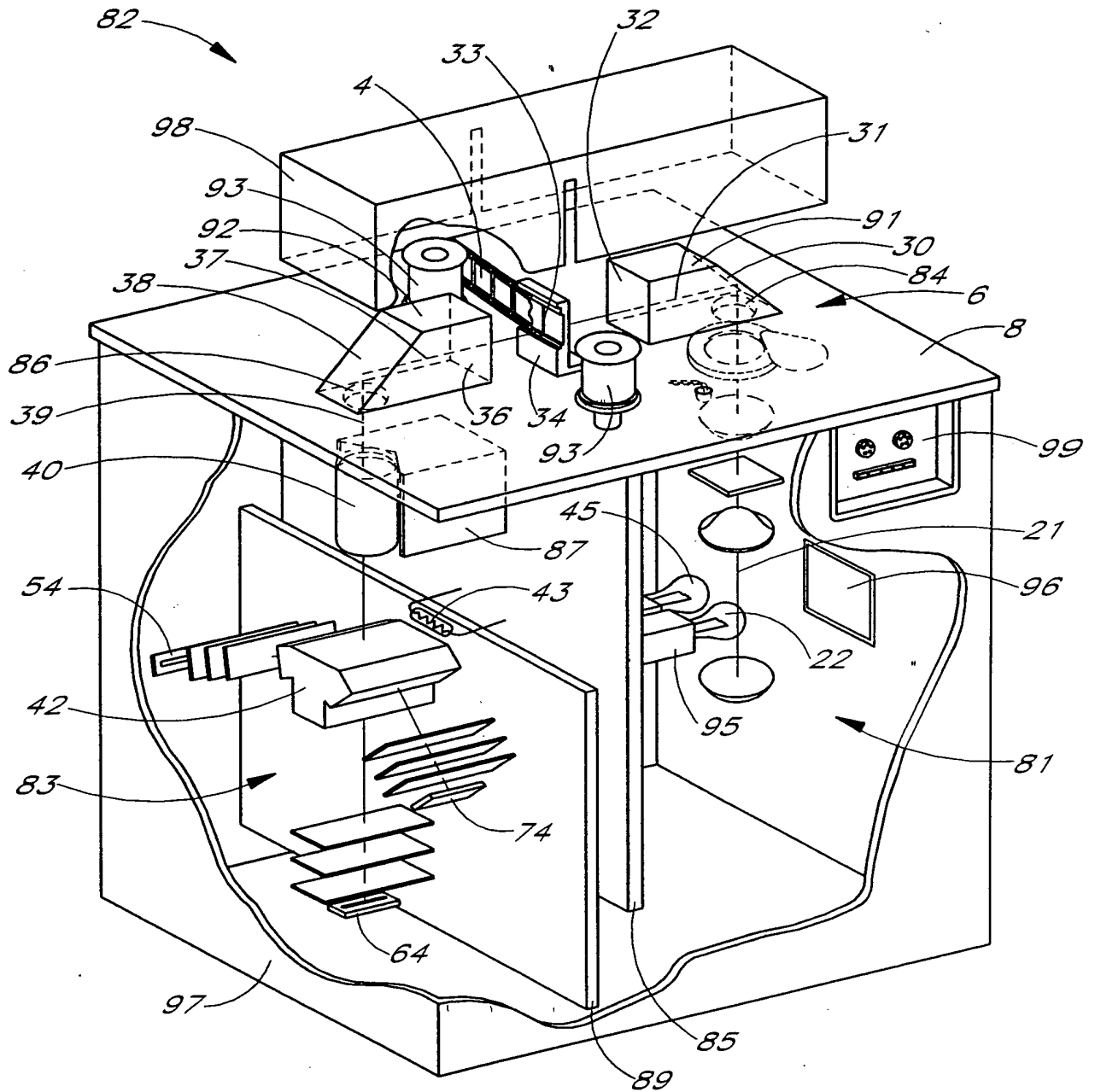


FIG. 3

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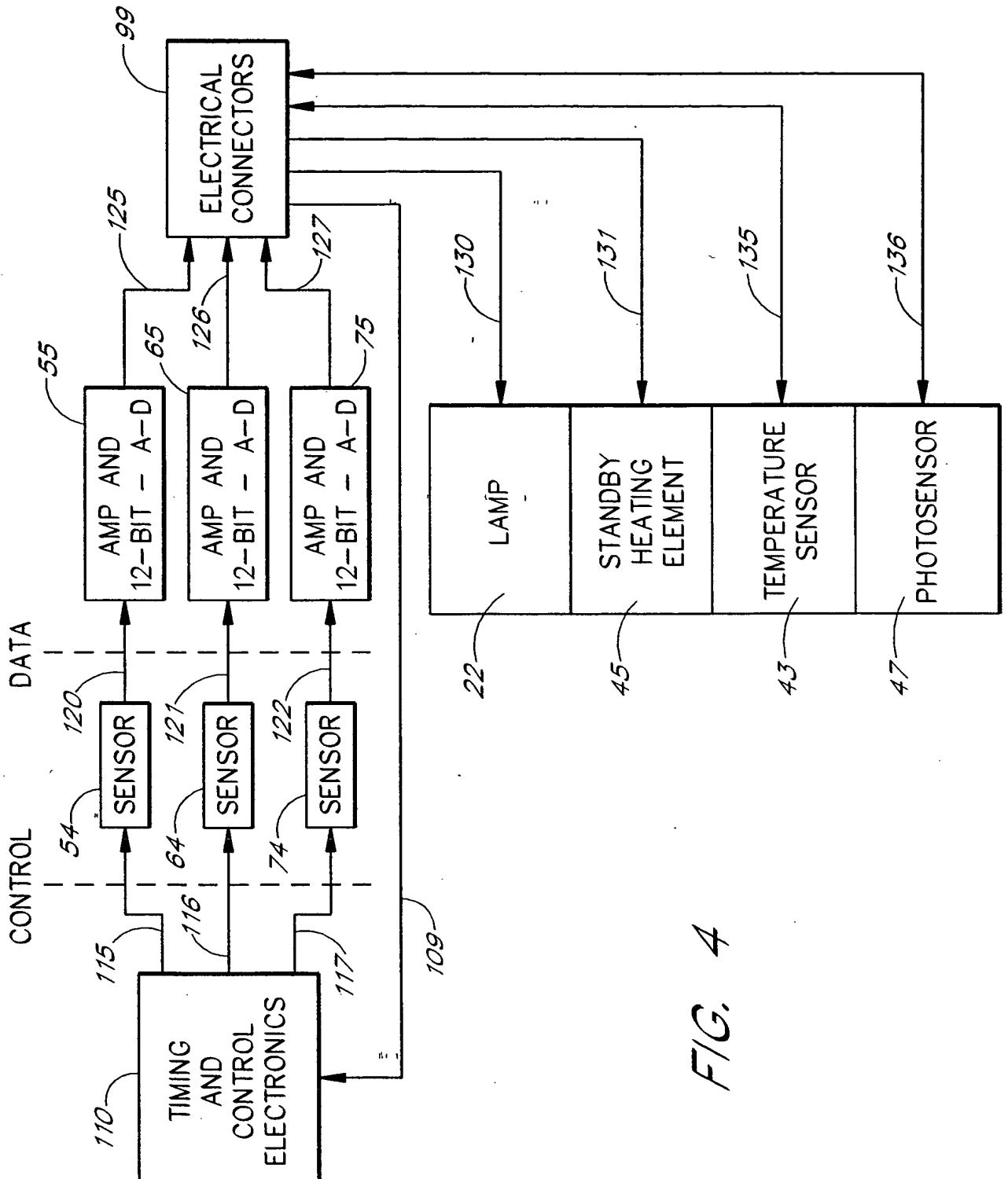


FIG. 4

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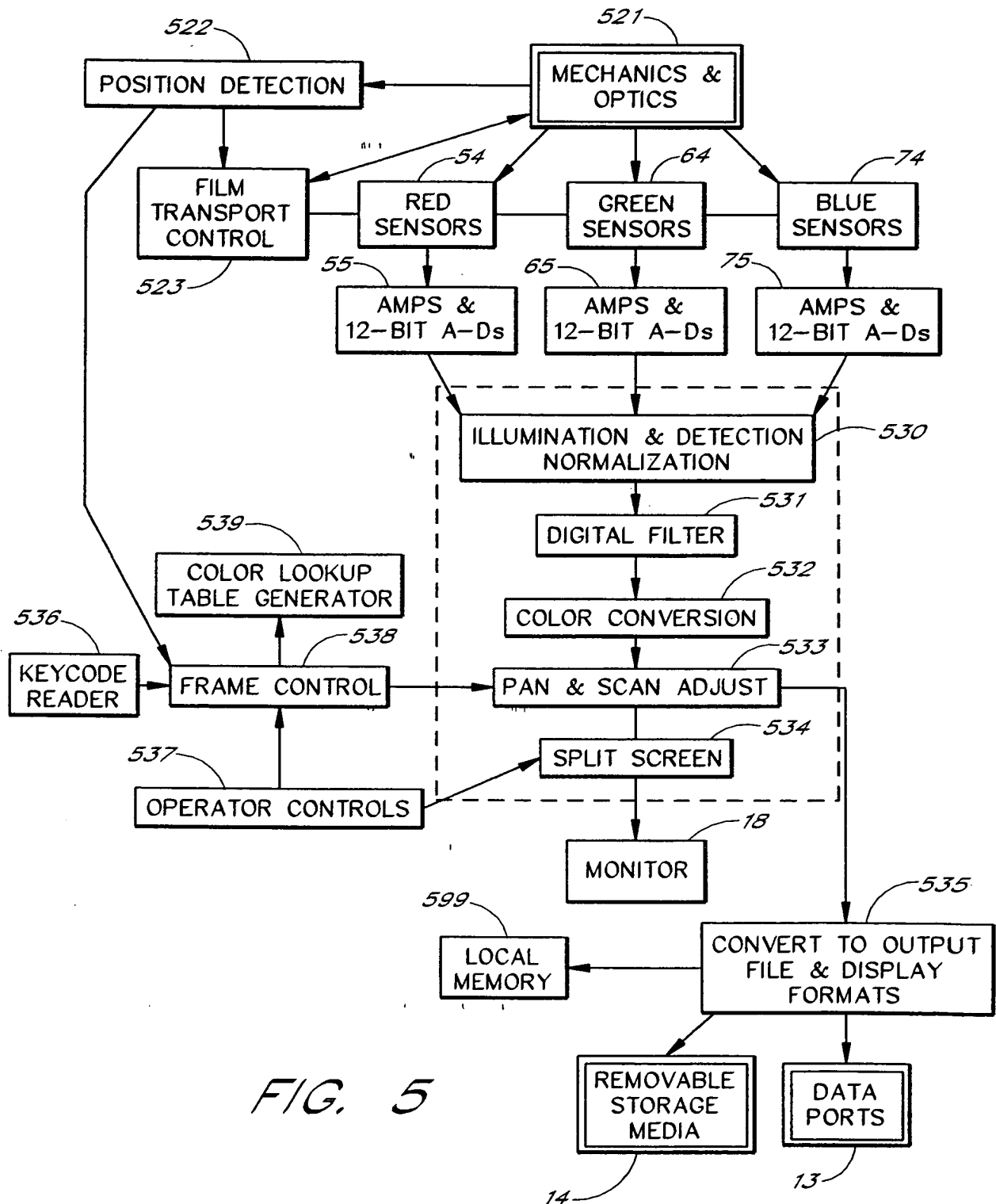


FIG. 5

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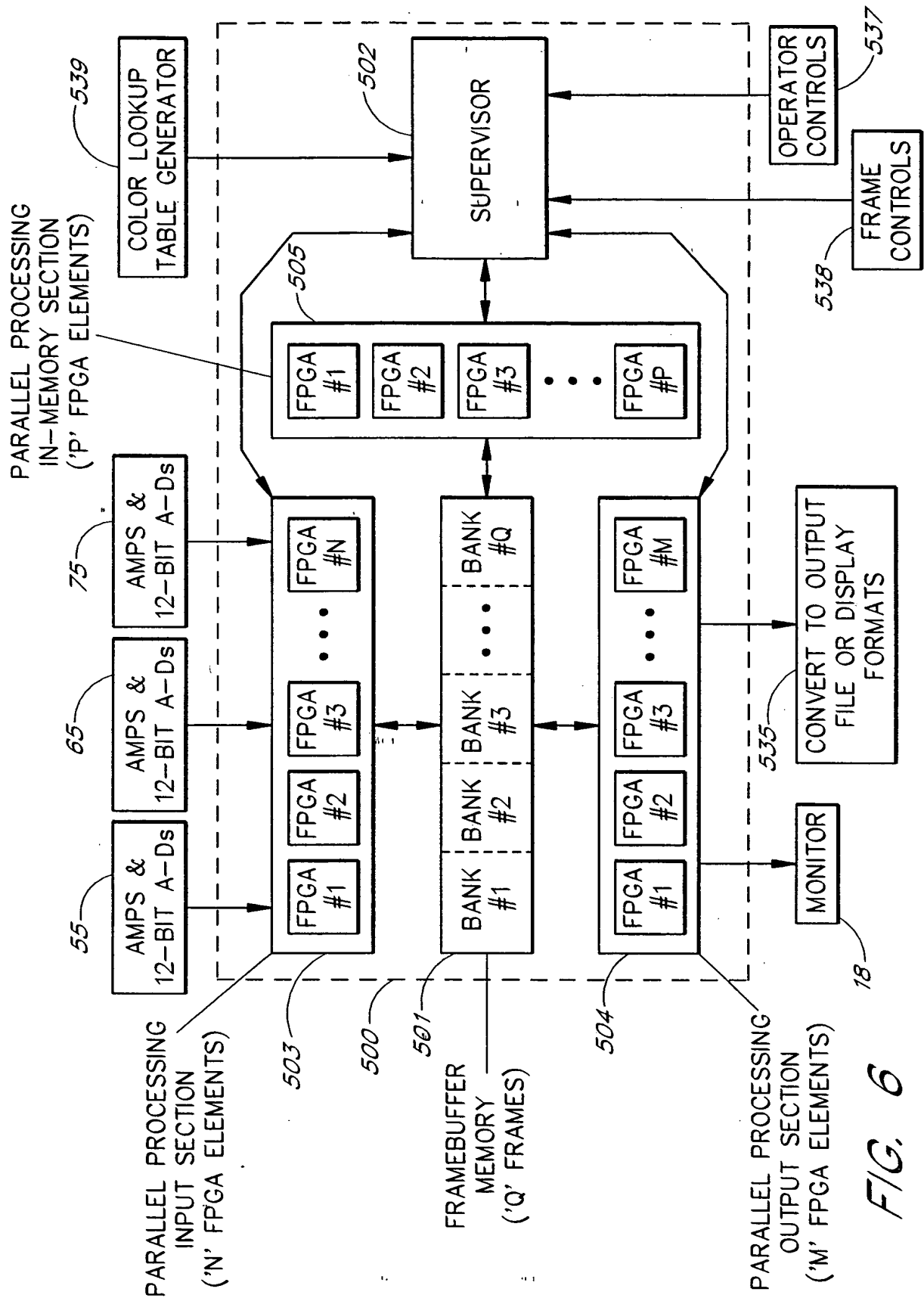


FIG. 6

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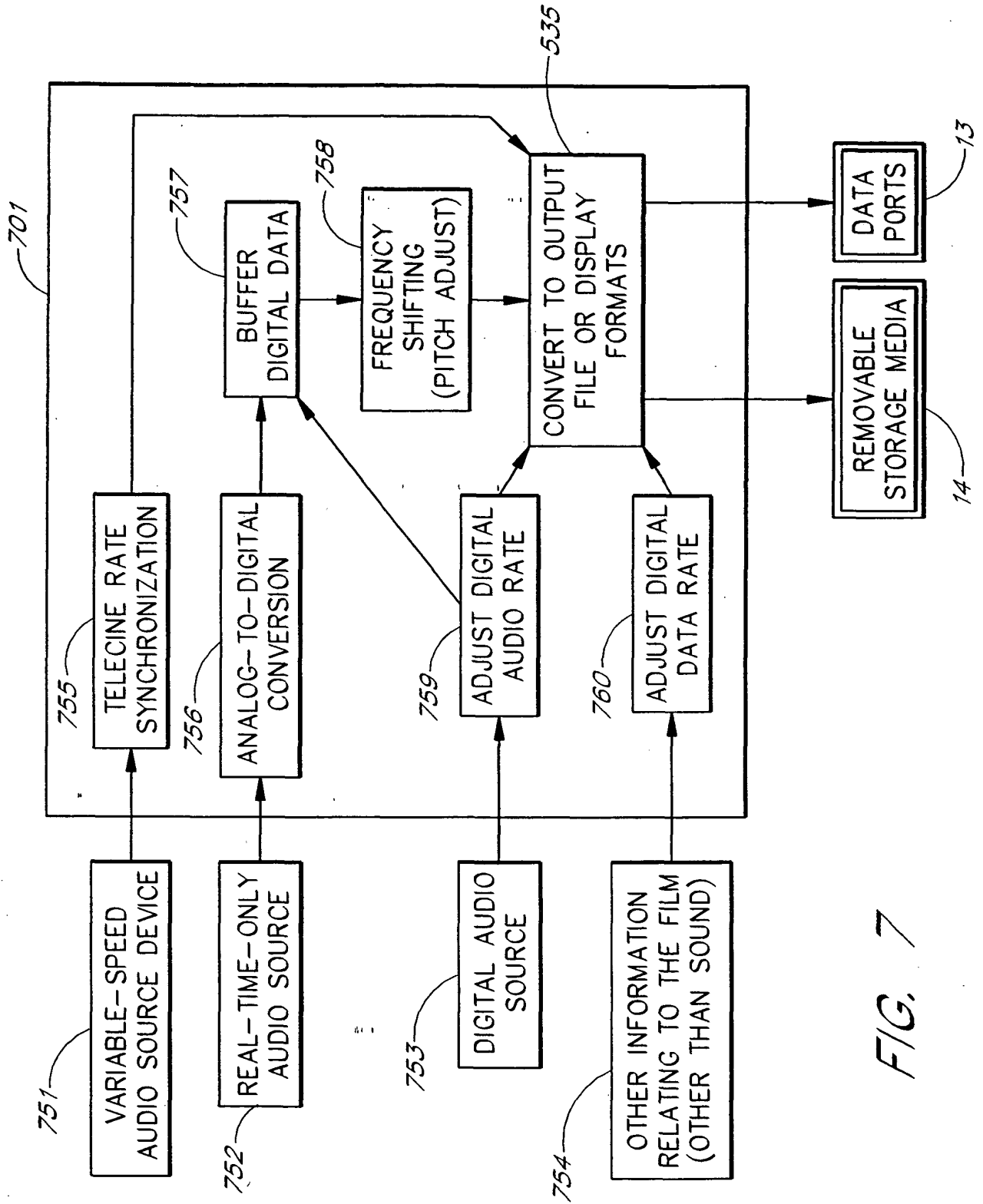


FIG. 7

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TABLE A - FILM INPUT FORMATS

35 mm FILM FORMAT <sup>1</sup>	ASPECT FORMAT	IMAGE WIDTH (INCHES)	IMAGE HEIGHT (INCHES)	IMAGE TO FILM FRAME RATIO
FULL-FRAME (SUPER 35)	1.33: 1	0.981	0.735	1.02
ACADEMY	1.37: 1	0.864	0.630	1.18
ANAMORPHIC	1.18: 1	0.864	0.630	1.18
1.85: 1	1.84: 1	0.864	0.469	1.59
3 Perf 1.85: 1	1.84: 1	0.864	0.560	1.33
TV 4: 3	1.33: 1	0.816	0.612	1.22
TV 16: 9	1.78: 1	0.816 <sup>1</sup>	0.531	1.41
3 Perf TV 16: 9	1.78: 1	0.816	0.560	1.33

<sup>1</sup>4 PERF UNLESS OTHERWISE SPECIFIED

TABLE B - TELECINE TO SDTV THROUGHPUT RATES

35 mm FILM FORMAT <sup>1</sup>	SDTV					
	480 X 640 SCAN			480 X 704 SCAN		
	EXPOSURE ( $\mu$ s)	RATE (FPS)	x REAL-TIME (24 FPS)	EXPOSURE ( $\mu$ s)	RATE (FPS)	x REAL-TIME (24 FPS)
FULL-FRAME (SUPER 35)	10.73	190.29	7.93	11.80	173.09	7.21
ACADEMY		164.49	6.85		149.62	6.23
ANAMORPHIC		164.49	6.85		149.62	6.23
1.85: 1		122.08	5.09		111.04	4.63
3 Perf 1.85: 1		145.94	6.08		132.75	5.53
TV 4: 3		159.10	6.63		144.72	6.03
TV 16: 9		137.66	5.74		125.22	5.22
3 Perf TV 16: 9		145.94	6.08		132.75	5.53

<sup>1</sup>4 PERF UNLESS OTHERWISE SPECIFIED

FIG. 8A



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TABLE C - TELECINE TO HDTV THROUGHPUT RATINGS

35 mm FILM FORMAT <sup>1</sup>	HDTV					
	720 x 1280 SCAN			1080 x 1920 SCAN		
	EXPOSURE ( $\mu$ s)	RATE (FPS)	x REAL-TIME (24 FPS)	EXPOSURE ( $\mu$ s)	RATE (FPS)	x REAL-TIME (24 FPS)
FULL-FRAME (SUPER 35)	21.40	63.63	2.65	32.07	28.31	1.18
ACADEMY		55.00	2.29		24.47	1.02
ANAMORPHIC		55.00	2.29		24.47	1.02
1.85: 1		40.82	1.70		18.16	0.76
3 Perf 1.85: 1		48.80	2.03		21.71	0.90
TV 4: 3		53.20	2.22		23.67	0.99
TV 16: 9		46.03	1.92		20.48	0.85
3 Perf TV 16: 9		48.80	2.03		21.71	0.90

<sup>1</sup>4 PERF UNLESS OTHERWISE SPECIFIED

TABLE D - VIDEO OUTPUT FORMATS

VIDEO FORMAT			INTERLACE	ASPECT RATIO	FRAME RATES <sup>1</sup> (Hz)	FILM INPUT SCAN RATE (FPS)	REAL-TIME TELECINE THROUGHPUT <sup>2</sup>
TV		NTSC	i	4: 3	29.97	48	x 5
		PAL	i	4: 3	25	48	x 5
		SECAM	i	4: 3	25	48	x 5
DTV	SDTV	480 x 640	i	4: 3	30	48	x 5
		480 x 640	P	4: 3	24, 30, 60	48	x 5
		480 x 704	i	16: 9	30	48	x 2
		480 x 704	P	16: 9	24, 30, 60	48	x 2
	HDTV	720 x 1280	P	16: 9	24, 30, 60	24	x 1
		1080 x 1920	i	16: 9	30	18	x $\frac{3}{4}$
		1080 x 1920	P	16: 9	24, 30	18	x $\frac{3}{4}$

<sup>1</sup>WITH REQUISITE PULLDOWNS

<sup>2</sup>WITH FILM SHOT AT 24 FPS

FIG. 8B